

CLAIMS

I claim:

1. A method of distributing groceries comprising:

placing a grocery item ordered by a customer in a tote;

5 placing the tote onto a removable rack in a warehouse;

transferring the rack with the tote thereon into a first vehicle; and

dispatching the first vehicle to deliver the grocery item.

2. The method of claim 1, wherein the first vehicle is dispatched from a

10 warehouse to a transfer point between the warehouse and a delivery destination, and the method
further comprises:

transferring the rack with the tote thereon from the first vehicle to a second vehicle;

and

delivering the tote to the delivery destination using the second vehicle.

15

3. The method of claim 2, wherein the second vehicle is smaller in size than the

first vehicle.

4. The method of claim 2, wherein the rack on which the tote is placed is

20 pitched such that when a second tote is located on the rack behind the first tote and the first tote is
removed, the second tote falls into a space previously occupied by the first tote by at least one of
gravity and the agitation of the movement of one of the first vehicle or the second vehicle.

5. The method of claim 1, further comprising the step of the customer ordering the grocery item by means of one of the Internet, phone, email, and facsimile device.

5 6. The method of claim 5, wherein the order for the grocery item is accepted before a cutoff time in the early evening of a first day, the order is filled by the placing of the grocery item in the tote by no later than a specified time, and the grocery item is delivered by early morning on a next day.

10 7. The method of claim 1, further comprising:
establishing a plurality of warehouses to stock a plurality of grocery items, wherein at least one of the plurality of warehouses is situated within an approximately 6 hour radius from a plurality of delivery destinations.

15 8. The method of claim 1, further comprising delivering the tote to a delivery destination by placing the tote into a secure expandable bag attached to a box situated outside the delivery destination.

20 9. The method of claim 8, wherein the bag has a collapsed state and an expanded state, and the method further comprises storing the bag in the collapsed state within the box when the bag is not used to store the tote, and removing the bag from the box, and expanding the bag to the expanded state before placing the tote therein.

10. The method of claim 9, wherein the bag has a lock to secure an opening in the bag, and the method further comprises opening the lock to provide access to place the tote in the bag, and locking the lock after placing the tote in the bag.

5

11. The method of claim 10, wherein the first opening provides access to a delivery person who opens the first lock, and the bag has a second opening and a second lock to secure the second opening, and the method further comprises a customer opening the second lock to gain access to remove the tote from the bag.

10

12. The method of claim 8, wherein the bag is one of a mesh net and an insulated bag.

13. The method of claim 1, wherein the ordered grocery item requires
15 refrigeration or freezing and the method further comprises maintaining the grocery item at approximately a desired chilled temperature within the tote.

14. The method of claim 13, wherein the grocery item is maintained at the desired temperature by placing a frozen insert in the tote in proximity to the grocery item.

20

15. The method of claim 13, wherein the grocery item is maintained at the desired temperature by feeding a chilled gas into at least a portion of the tote to maintain the grocery item at approximately a desired temperature.

5 16. A method of distributing groceries comprising:
placing a grocery item ordered by a customer in a tote; and
delivering the tote to a delivery destination by placing the tote into a secure expandable bag attached to a box situated outside the delivery destination.

10 17. The method of claim 16, wherein the bag is one of a mesh net and an insulated bag.

18. The method of claim 16, wherein the bag has a collapsed state and an expanded state, and the method further comprises storing the bag within the box when the bag is not
15 used to store the tote and is in the collapsed state, removing the bag from the box, and expanding the bag to the expanded state before placing the tote therein.

19. The method of claim 18, wherein the bag has a lock to secure an opening in the bag, and the method further comprises opening the lock to provide access to place the tote in the
20 bag, and locking the lock after placing the tote in the bag.

20. The method of claim 19, wherein the first opening provides access to a delivery person who opens the first lock, and the bag has a second opening and a second lock to secure the second opening, and the method further comprises a customer opening the second lock to gain access to remove the tote from the bag.

5

21. The method of claim 16, further comprising the step of the customer ordering the grocery item by means of one of the Internet, phone, email and facsimile device.

22. The method of claim 16, wherein the order for the grocery item is accepted
10 before a cutoff time in the early evening of a first day, the order is filled by the placing of the grocery item in the tote by no later than a specified time, and the grocery item is delivered by early morning of a next day.

23. The method of claim 16, wherein the grocery item requires refrigeration or
15 freezing and the method further comprises maintaining the grocery item at approximately a desired temperature within the tote.

24. The method of claim 23, wherein the grocery item is maintained at the desired temperature by placing a frozen insert in the tote in proximity to the grocery item.

20

25. The method of claim 23, wherein the grocery item is maintained at the desired temperature by feeding a chilled gas into at least a portion of the tote to maintain the ordered item at approximately a desired temperature.

5 26. The method of claim 16, further comprising:
establishing a plurality of warehouses to stock a plurality of grocery items, wherein at least one of the plurality of warehouses is situated within an approximately 6 hour radius from a plurality of delivery destinations.

10 27. The method of claim 16, further comprising placing the tote onto a removable rack and transferring the rack with the tote thereon from a first vehicle to a second vehicle.

15 28. The method of claim 27, wherein the second vehicle is smaller in size than the first vehicle.

20 29. The method of claim 27, wherein a second tote is placed on the rack behind the first tote and the rack is pitched so that when the first tote is removed, the second tote falls into a space previously occupied by the first tote by at least one of gravity and the agitation of the movement of one of the first vehicle or the second vehicle.

30. A method of distributing groceries comprising:

accepting an order for a grocery item from a customer;
placing the grocery item ordered by a customer into a tote at a warehouse;
placing the tote into a first vehicle;
transferring the tote from the first vehicle to a second vehicle at a transfer point, and
5 delivering the grocery item to the delivery destination using the second vehicle.

31. The method of claim 30, wherein the second vehicle is smaller in size than
the first vehicle.

10 32. The method of claim 30, further comprising placing the tote on a removable
rack at the warehouse after placing the grocery item into the tote, and placing the tote into the first
vehicle by placing the rack with the tote thereon into the first vehicle.

15 33. The method of claim 32, wherein a second tote is placed on the rack behind
the first tote and the rack is pitched so that when the first tote is removed, the second tote falls into
a space previously occupied by the first tote by at least one of gravity and the agitation of the
movement of the first vehicle.

20 34. The method of claim 30, further comprising the step of the customer
ordering the grocery item by means of one of the Internet, phone, email and facsimile device.

35. The method of claim 30, wherein the order for the grocery item is accepted before a cutoff time in the early evening of a first day, the order is filled by the placing the grocery item in the tote by no later than a specified time, and the grocery item is delivered by early morning on the next day.

5

36. The method of claim 35 wherein the step of transferring the tote from the first vehicle to the second vehicle at a transfer point comprises transferring the tote during the late night or early morning hours at a location that is in use during the day by an establishment but is not otherwise in use during the late night or early morning hours.

10

37. The method of claim 30, further comprising:

establishing a plurality of warehouses to stock a plurality of grocery items, wherein at least one of the plurality of warehouses is situated within an approximately 6 hour radius from a plurality of delivery destinations.

15

38. The method of claim 30, wherein the grocery item is delivered in the tote to the delivery destination, and the step of delivering the grocery item comprises placing the tote into a secure expandable bag attached to a box situated outside the delivery destination.

20

39. The method of claim 38, wherein the bag has a collapsed state and an expanded state, and the method further comprises storing the bag in the collapsed state within the

box when the bag is not used to store the tote, and removing the bag from the box, and expanding the bag to the expanded state before placing the tote therein.

40. The method of claim 39, wherein the bag has a lock to secure an opening in
5 the bag, and the method further comprises opening the lock to provide access to place the tote in the bag, and locking the lock after placing the tote in the bag.

41. The method of claim 40, wherein the first opening provides access to a
delivery person who opens the first lock, and the bag has a second opening and a second lock to
10 secure the second opening, and the method further comprises a customer opening the second lock to gain access to remove the tote from the bag.

42. The method of claim 38, wherein the bag is one of a mesh net and an
insulated bag.
15

43. The method of claim 30, wherein the grocery item requires refrigeration or
freezing and the method further comprises maintaining the grocery item at approximately a desired
temperature within the tote.

20 44. The method of claim 43, wherein the grocery item is maintained at the desired temperature by placing a frozen insert in the tote in proximity to the grocery item.

45. The method of claim 43, wherein the grocery item is maintained at the desired temperature by feeding a chilled gas into at least a portion of the tote to maintain the grocery item at approximately a desired temperature.

5 46. A method of distributing groceries comprising:
placing a grocery item ordered by a customer in a tote; and
placing the tote containing the grocery item into a box outside a delivery destination.

47. The method of claim 46, further comprising securing the tote within a mesh
10 before placing the tote into the box.

48. A system for securing an item outside a delivery destination, comprising:
a box secured outside a delivery destination, the box having a cavity;
an expandable bag secured to the box, the bag being storable in a collapsed state
15 within the cavity and expandable outside the box to an expanded state in which the item may be placed in the bag, and
a lock for securing the item within the bag.

49. The system of claim 48, wherein the item is a tote placed in the bag.
20

50. A box for securing a tote for groceries, the box comprising:
a cavity into which the tote may be placed, and

means for securing the tote that is placed within the cavity.

51. The box of claim 50, wherein the means for securing the tote comprises an expandable bag placed around the tote.

5

52. The box of claim 51, wherein the means for securing the tote further comprises a lock for securing the tote within the bag.

53. A rack for holding a first tote for delivering groceries, the rack comprising:

10

a shelf on which the tote is placed; and

means for mounting the shelf on a surface such that the shelf is pitched downward when it is mounted and, when the first tote is removed, the second tote falls into a space previously occupied by the first tote.

15

54. The rack of claim 53, wherein the mounting means further comprises means for removably mounting the rack on a rack holder for removal with the tote on the rack.

55. The rack of claim 53, wherein the mounting means comprises a bracket for mounting the rack with the shelf pitched.

20

56. A bag for securing an item therein, the bag comprising:

an interior;

a sealable opening to the interior of the bag,

a two-way zipper across the opening to open and close the opening, the zipper having first and second ends, and first and second sliding pieces that close the zipper when fully extended apart from one another,

5 first means for locking the first end of the zipper to the bag by locking the first sliding piece to a first position on the bag, and

second means for locking the second sliding piece independently of the first sliding piece to a second position on the bag different from the first position on the bag.

10 57. The bag of claim 56, wherein the first and second locking means each comprise a padlock.

58. The bag of claim 56, wherein the bag comprises one of a mesh net or an insulated bag.

15

59. A bag for securing an item therein, the bag comprising:

a first opening having a perimeter;

a plurality of rings secured to the perimeter of the opening, such that the opening is closed by securing the plurality of rings in proximity to one another.

20

60. The bag of claim 59, further comprising a second opening having a second perimeter, and a second plurality of rings secured to the second perimeter of the second opening,

such that the second opening is closed by securing the second plurality of rings in proximity to one another.

61. The bag of claim 59, wherein the bag comprises one of a mesh net or an
5 insulated bag.

62. The bag of claim 59, wherein the item secured in the bag is a tote.